Ad Hoc Alliance for Public Access to 911

Alliance for Technology Access•Arizona Consumers League•National Consumers League•World Institute on Disability•Crime Victims United•Justice for Murder Victims•California Cellular Phone Owners Association•Florida Consumer Fraud Watch•Center for Public Interest Law•Consumer Action•Consumer Coalition of California•Consumers First•California Alliance for Consumer Protection•Californians Against Regulatory Excess•The Office of Communication of the United Church of Christ•Utility Consumer Action Network•Children's Advocacy Institute

June 5, 1998

Magalie Salas
Secretary
Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554

Re: Ex Parte Meeting
CC Docket 94-102

Dear Ms. Salas:

On June 2, 1998 Jim Conran, Jon Linkous, Carl Hilliard and Ermilia Lechuga representing the Ad Hoc Alliance met with Commissioner Furchgott-Roth and Paul Misener about the above referenced docket. The subject of the meeting is covered in the enclosed attachment.

Jonathan Linkous

THE PROCESS

- February 22, 1996. The Alliance conducts field tests in Los Angeles of the two cellular systems and discovers pervasive "holes" where portable cellular phones are "in service" but unable to communicate. Additional tests were performed in Dallas and Atlanta with the same results. These tests also show that the "holes" would be filled in if cellular phones were able to automatically select the strongest compatible signal.

- January 1995 . The Alliance files a petition for a rule change with the FCC to require all newly manufactured cellular phones to have the capability of automatically selecting the strongest compatible signal when 911 is dialed ("Strongest Signal Proposal").

- July 26, 1996. The FCC asks for further comment concerning the Strongest Signal Proposal and states: "***If a commenter believes that Alliance's proposal is technically infeasible, it should provide its reasons in detail, with supporting engineering analyses.***" No comments or engineering analysis were filed except for the Trott report supporting the Strongest Signal Proposal.

- In October, 1997 the Alliance was asked to meet with the "WEIAD," which is an organization made up of representatives of the wireless industry and the public safety community, to see if some agreement could be reached concerning the Strongest Signal Proposal. The Alliance made a presentation to the WEIAD on November 8 & 9. At that time it was agreed that the "concerns" of the wireless industry would be addressed in a technical session on January 6, 1998. December 15, 1997 was set as the date for exchange of written materials detailing the technical positions of the parties. ***No written materials were submitted in support of any "concerns" by any party. At the time of the meeting of the technical committee, the Chair asked for additional contributions and there were none!***

- On May 20, 1998, CTIA files an unsigned technical paper without disclosing the qualifications, if any, of the person(s) who prepared the paper. The Alliance has responded to this paper and exposed its invalid and tortured assumptions.

THE PROBLEM

- Cellular systems were designed for use with 3 watt cellular phones installed in vehicles and connected to 12 volt car batteries and high gain external antennas ("car cellular phones").

- The coverage maps given to consumers by cellular companies show service to very wide areas. These coverage maps are based on coverage to a car cellular phone.

- 97% of all cellular phones in use today are small, hand held 600-milliwatt units with small batteries and short antennas ("portable cellular phones").

- The cellular systems treat car cellular phones and portable cellular phones in the same way. Both of these phones will show that they are "in service" based on the same signal strength received from a cellular site.

- When a call is attempted from an "in service" cellular phone, a data stream is sent to the cellular site over the broad band control channel. This digital message is repeated five (5) times and the cellular site uses powerful error correction to replace any lost digits in the message. The cellular phone ear piece is muted during this process so all the calling party hears is "dead air".

- Once the correct message is received and verified, the cellular site assigns one of its thirty (30) voice channels to the cellular phone. The cellular phone is instructed to switch to the assigned voice channel and send a hand shake analog tone.

    - A car cellular phone will usually be connected and the call completed.

    - A portable cellular phone may or may not be able to access the voice channel even though the phone will show that it is "in service." If the phone is unable to access the voice channel, the caller will hear "dead air" and eventually hang-up or the system will hang up because the phone did "not hand shake".

THE SOLUTION

The Alliance tests in Los Angeles, Dallas and Atlanta established that a failed call from a portable cellular phone placed over one system ***would have been completed*** had the phone been able to switch to the other system. Specific tests were conducted over the route traveled by Marcia Spielholz and from the Lechuga accident scene. ***These tests conclusively proved that the calls to 911 from Marcia Speilholz and from the Lechuga accident scene would have been completed if the strongest signal had been selected.***

- The Alliance's test results have not been, and are not now, disputed.

  - Map in wireless trade publications illustrates the problem, which it calls the industry's "Dirty Little Secret."

  - Advertising in wireless trade publications speaks of partial solutions for reducing the effect of coverage problems. See the Swiss Cheese ad.

CTIA CONTENTIONS

1. *The control channel may not result in the assignment of the strongest voice channel.* This statement assumes that all 30 cellular channels are busy and the call is reassigned to a nearby cell with a signal that is not as strong as the nearest cell from the other system. If all 30 channels are busy then the caller is located in a dense urban area where the call is going to be completed anyway. As soon as a channel becomes available from the first cell site the call will be transferred back to that site. *See Map of Actual Coverage Contours.*

2. *Multiple calls regarding the same accident will overload a cell site and the PSAP trunk.* This happens today and the solution in place is to "choke off" these calls. The strongest signal has no effect on this problem which is a phenomena limited to dense urban freeway situations. *See Diagram.*

3. *Calls from non-subscribers will not have call back information.* ALL CELLULAR PHONES send their mobile identification number, which is the same as the call back number, and can be easily sent to the PSAP. The Public Safety Industry has stated that only ½ of 1% of all calls to 911 require call back. *See WEIAD report re call back.*

4. *Strongest signal will require up to 18 seconds of additional call set up time causing callers to hang up and retry.* The Trott report says 2 seconds. The Audiovox cellular phone, which uses the strongest signal approach, scans in 2 seconds. CTIA's 18 seconds assumes that the call will be "validated," which is contrary to the FCC's rules. The caller from the Lechuga phone did not hang up until after: 30.7"; 1:09.4'; 44.5"; 59";1:07.4'; 19.7". *See cell site report.*

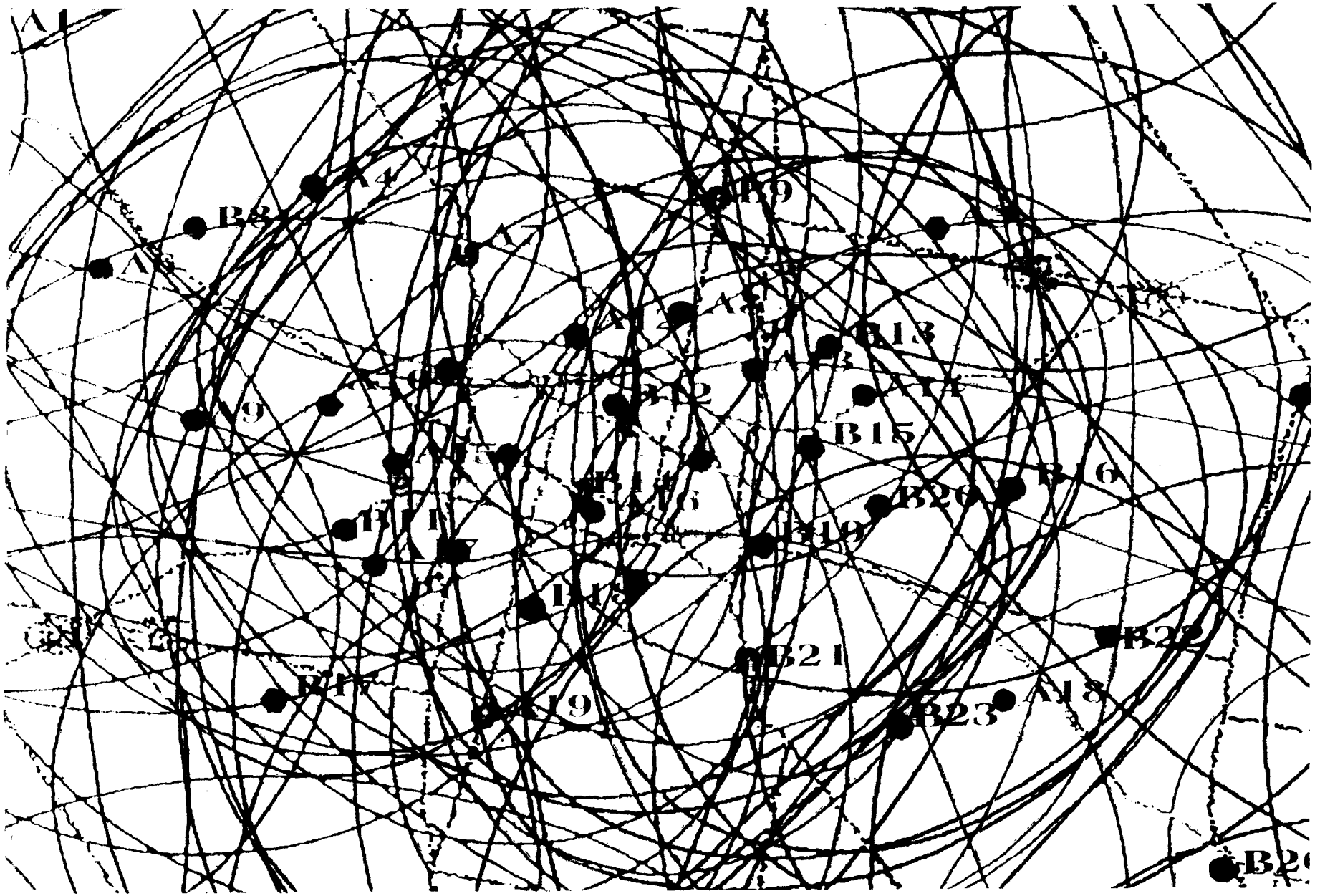
5. *Carrier incentives for early deployment of location technology will be undercut by the strongest signal.* THE COMMISSION HAS MANDATED DEPLOYMENT OF LOCATION CAPABILITY BY THE YEAR 2001. When this issue was first raised months ago, the Alliance agreed that a consumer should have the option to switch off the strongest signal feature if there was a preference for a particular location technology which was available on one but not the other carrier. The incentive for early deployment is, in fact, the prospect of making profits by selling other services using location. Early deployment is unlikely because questions have been raised concerning the wording of the Commission's rule and about the right to select the location equipment

THE REAL REASON FOR CTIA OPPOSITION

Local zoning boards and park authorities have long resisted the addition of new tower sites in certain locations. This resistance runs against the commercial interests of the wireless industry. The need to reach 911 in an emergency is the most compelling argument in favor of new sites. The strongest signal solution undercuts this argument because once the public has access to 911 there is no longer a strong reason for additional sites.

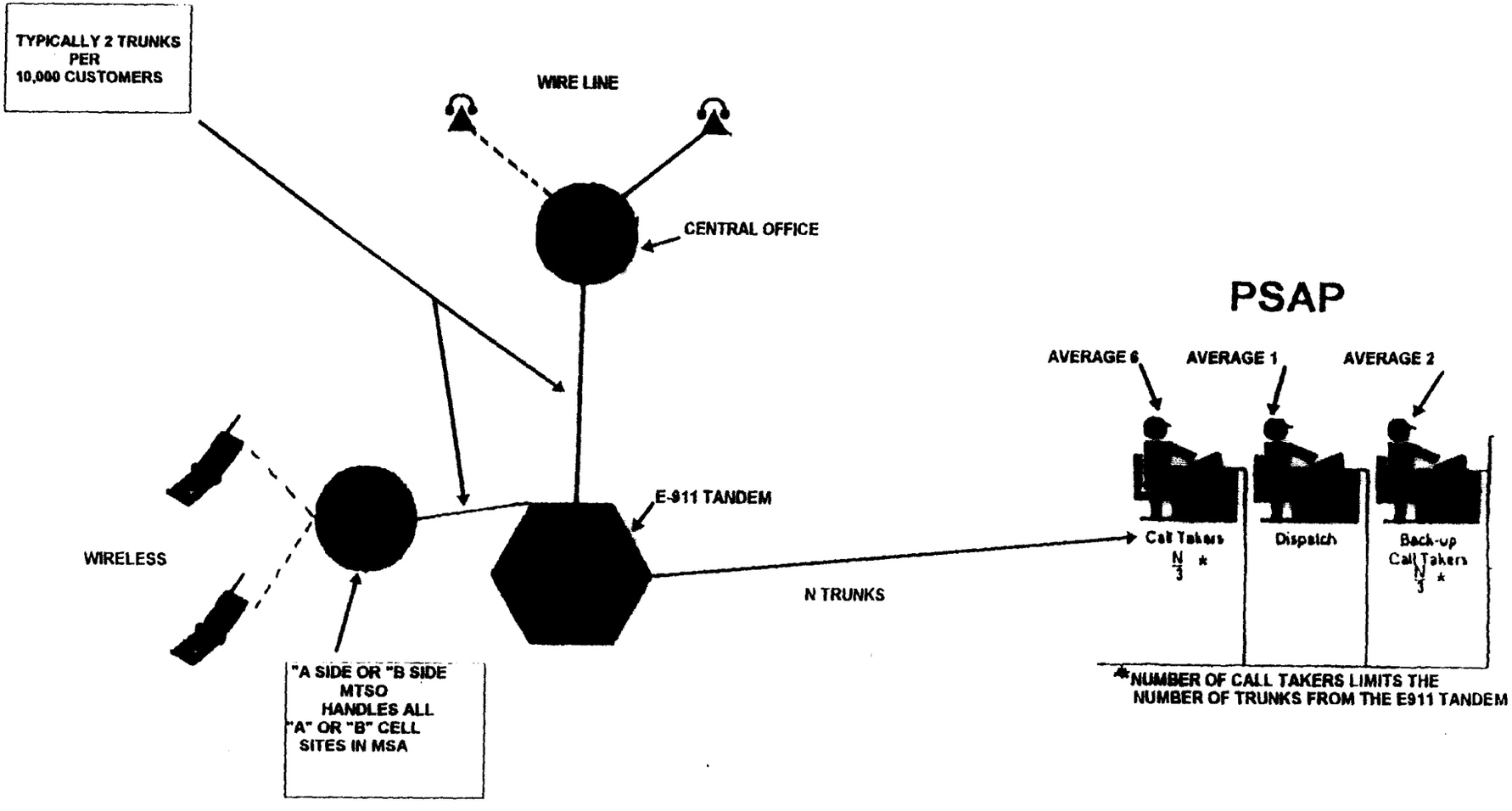
TYPICAL ACTUAL CELLULAR HIGH DENSITY CORE COVERAGE CONTOURS

MID-SIZED CITY



NUMBER OF 911 CALLS IS LIMITED BY THE E-911 TANDEM "CHOKE POINT".

THE NUMBER OF TANDEM TRUNKS IS DETERMINED BY LEVEL OF PSAP STAFFING.



WEIAD-3

Meeting Summary Report

VERSION 1.0
(March 3, 1998)

January 8 & 9, 1998
Phoenix, AZ

Working Group Recommendations:

1. Determine the percentage (with a reasonable degree of confidence) of 9-1-1 calls originating on wireless networks that cannot be called back and, if possible, categorize this subset according to the following reasons: (a) no roamer agreement, (b) lapsed subscriber, and (c) uninitialized mobile stations.

Such efforts would include the following:

o Public safety provider organizations be asked to provide data or validating information concerning the approximate percentage of 9-1-1 calls (that originate on wireless systems) where call back capability would be needed or warranted.
o Industry be asked to provide data or validation that illustrates the range of circumstances and a realistic approximation of their proportional representation where a call back number cannot be supplied by the system.

2. Based on the above stated determinations, if the percentage of situations where there is no call-back capability is already low (possibly under 2%), there may be little or no justification for further actions. Alternatively, if the estimated percentage is substantially higher, additional efforts to expeditiously identify and implement practical solutions may be warranted.

It is further recommended that the above-stated conclusions regarding the public interest need for call back capability should be confirmed by the public safety provider organizations (such as NENA, APCO, etc.).

3. CTIA and PCIA initiate a "best effort" initiative for the development and implementation of a nationwide (possibly North American) mechanism for the processing of technologically-compatible 9-1-1 calls originating on wireless systems.

This mechanism should ensure that carrier-to-carrier business relationships do not unduly impede progress in the area of assuring wider 9-1-1 call back capability.

III. CONCLUSION

Possible Courses of Action

Callback using normal call delivery (see J-STD-034) handles most 9-1-1 callers. However, there are a number of exception cases identified (see diagram). There are several solutions which may be used to address these exception cases including:

AMA REPORT FOR: 213-364-7238 Time: 11/27/97 12:00 to 12/05/97 16:00
Serial No (in hex): hd4276ec1 Manf. Serial No.: m21202584257
P13577224961

STRUCTURE CODE: 1339 CALL TYPE: Operator Assistant Call
REC:1 TO DN:0 CIDGT: HOF:0
SID:228 DCS:0 NIPTG:0 NIPTM:0
ICS: 28 IRDO: 5 PSCM:0 SCM:
LCS: 28 LRDO: 5 RCFI:No Failure Occurred
VC: D 11-29-97 T 13:08:58.4 E 00000:30.7
LAND: D 00-00-00 T 00:00:00.0 E 00000:00.0
3WAY: E 00000:00.0 LSA: E 00000:00.0
BTYP:0 RSIND:1 DCSDGT:
SRFEAT:0 MSN:hd4276ec1 BNUM:2133647238
SRTG:0 SRTM:0 ANSSTAT:Unanswered
CIOPER: Exchange Operator
TIMIND:
SERVFEAT:No Service Feature
OSEAIND:Zeroes in the Called Number field. The oper. was the called no.
DIAL:APX Basic Routing
LSAIND:No LSA Voice Channel Timing
MRSTAT:
Message Recording Service Not Used

STRUCTURE CODE: 1339 CALL TYPE: Non-Toll Cellular-Orig. Call
REC:2 TO DN:0 CIDGT HOF:0
SID:228 DCS:0 NIPTG:0 NIPTM:0
ICS: 28 IRDO: 5 PSCM:0 SCM:
LCS:28 LRDO: 5 RCFI:Timed-out Mobile Unit Release
VC: D 11-29-97 T 13:12:46.0 E 00001:09.4
LAND: D 00-00-00 T 00:00:00.0 E 00000:00.0
3WAY: E 00000:00.0 LSA: E 00000:00.0
BTYP:0 RSIND:1 DCSDGT:
SRFEAT:0 MSN:hd4276ec1 BNUM:2133647238
SRTG:0 SRTM:0 ANSSTAT:Unanswered
CIOPER:No Operator involved
TIMIND:
Charge Guard
SERVFEAT:No Service Feature
OSEAIND:Not An Overseas Call (NPA not dialed)
DIAL:APX Basic Routing
LSAIND: No LSA Voice Channel Timing
MRSTAT:
Message Recording Service Not Used
